





DISTRIBUTION OF MAMMALIAN GLUTAMATE TRANSPORTERS AND THEIR HUMAN HOMOLOGUES\*

1			· · · · · · · · · · · · · · · · · · ·		
DISTRIBUTION	HIGH EXPRESSION IN CEREBELLUM; LESS IN BRAIN AND SPINAL CORD	WIDESPREAD THROUGHOUT BRAIN AND SPINAL CORD	HIPPOCAMPUS, CEREBELLUM, BASAL GANGLIA	PURKINJE CELLS OF CEREBELLUM	RETINA
CELL TYPE	ASTROCYTES	ASTROCYTES (NEURONS)**	NEURONS	NEURONS	NEURONS
NCBI NCBI	SLC1A3	SLC1A2	SLC1A1	SLC1A6	SLC1A7
HUMAN HOMOLOGUE	EAAT1	EAAT2	. EAAT3	EAAT4	EAAT5
GLUTAMATE TRANSPORTER	GLAST	GLT-1	EAAC1	EAAT4	EAAT5

TRANSPORTER 1; GLT-1 GLUTAMATE TRANSPORTER 1; EAAT2, EXCITATORY AMINO ACID TRANSPORTER 2; \*GLAST INDICATES ASTROYCYTE-SPECIFIC GLUTAMATE TRANSPORTER; EAAT1, EXCITATORY AMINO ACID EAAT3, EXCITATORY AMINO ACID TRANSPORTER 3; EAAT4, EXCITATORY AMINO ACID TRANSPORTER 4; EAAT5, EXCITATORY AMINO ACID TRANSPORTER 5.

\*\*NOTE THAT ONE SPLICE VARIANT GLT-1 lpha IS EXPRESSED PREFERENTIALLY IN ASTROCYTES AND ANOTHER GLT-1eta IS EXPRESSED PREFERENTIALLY IN NEURONS (SCHMITT 2002 NEUROSCIENCE 109 45-61).

GLUTAMATE REGULATION: MICROARRAYS

GENE	AU	Y + AI	EFFECT SIZE	p VALUE
U15098.at GLTI	337.63* ± 8.2	257.62 ± 7.9	5.87	0.0007
S59158_at GLAST	4693.87 <sup>t</sup> ± 165.58	4228.57 ± 135.6	1.93	0.076
AF038571 EAAC1	732.4 ± 35.73	655.58 ± 23.92	SN	0.112
rc_A1227705_at PACAP	604.63* ± 18.91	482.32 ± 21.25	3.53	0.007
J04171_at ASPARTATE AMINOTRANSFERASE	3287.73* ± 14.86	3055.23 ± 55.9	2.58	0.025

\*NO OVERLAP BETWEEN PROBE SET VALUES FOR AU AND ALL PROBE SET VALUES FOR Y AND AI. tho overlap between values for au and values for al.

FIG. 4

GLUTAMATE REGULATION: IN SITU HYBRIDIZATION ASSAYS	p VALUE	p < .03	p < .10	SN
	Y + AI	2.21 ± .04	.228 ± .009	.304 ± .028
	AU	2.46 ± .095	.263 ± .016	.368 ± .034
GLUTAMATE RE	GENE	GLT	GLAST	EAAC1

